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EDITORIAL.

THERE IS a certain fixity necessary in the terms which are used in descriptive botany; yet if anyone will compare descriptions of plants written 100 — or even 50 — years ago with modern ones the changes that have occurred in terminology will be striking. These changes have crept in almost unperceived in most cases, and have been made in deference to modifications in the morphological concepts. But if the list of terms now in use be scrutinized it will be seen that many do not in the least correspond to the present views of the morphology of the parts. Note for example the terms relating to the flower mentioned by Prof. MacMillan at p. 178; and further such as acaulescent, adnate (anthers), albumen and plumule for the Phanerogams; stipe and frond for the Ferns; areolation, apophysis and acrocarpous for the Mosses; and a host of others that might be specified.

WHAT SHALL be done with such terms? Drop them and substitute the more correct ones, says the morphologist; whereat the systematist raises his hands in holy horror, because the necessity for change does not appear. Nor it is likely that it can be made obvious to him. He is looking at the blue side of the shield; the morphologist at the white. Here is an opportunity for the botanical congress of 1893. It may wisely undertake not only to unite systematists in some common action regarding nomenclature, but take steps toward revising the inconsistent terminology of the science.

WE SAY "of the *science*," for morphology is by no means guiltless in this matter. The most thorough attempt to revise the terminology of the reproductive organs of cryptogams was made a few years ago by Bennett and Murray. Though not wholly consistent nor wise, the move was in the right direction and their suggestions might serve as a basis for future revision.

CURRENT LITERATURE.

The Podostemaceæ.

Warming's paper on this family[1] contains an admirable account of the characters of this small, but very interesting family, the position of which, formerly in dispute, the author states to be close to the *Saxifragaceæ.* Several years ago Mr. Warming made a special study of this family, and the present paper contains most of the results of the investigations, which have been made with his usual acuteness in morphological and anatomical questions. The structure of the vegetative organs is peculiar. The roots of these plants show in several species a function, corresponding to that of a rhizome, and have hitherto often been considered as identical with a "thallus" or a "stem." They are always dorsiventral and often strongly flattened; one genus, *Tristicha*, is, however, according to Cario evidently destitute of any kind of roots. As to the internal structure of the roots, there is neither any endodermis nor pericycle, but the central-cylinder is surrounded by a collenchymatic tissue, which is especially strongly developed on the dorsal face; the groups of leptome occupy the dorsal face of the central-cylinder, and are not in alternation with the groups of hadrome, here being situated on the ventral face. The groups of hadrome, commonly two, contain a few narrow vessels, but seem, however, in some cases to be entirely wanting, thus the cylinder looks as if it merely consisted of leptome. The roots showed otherwise a more or less large-celled parenchyma with deposits of starch.

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[1] WARMING, EUG.—Podostemaceæ in Engler und Prantl: Die natuerlichen Pflanzenfamilien III. 2. a. Leipzig: Wilhelm Engelmann. September, 1890.

Two different kinds of organs have been observed as fixing the roots to the substratum: "hairs" with the structure of true roothairs, but with the properties of rhizoids; and the so called "hapters." These last organs have been described more completely in a special paper by the same author[1]. They are exogenous and are constantly developed from the base of the shoots; they show a conical shape as long as they have not yet reached the substratum, but after that they become flattened and show usually a more or less digitate lobation, the lobes closely fastened to the substratum, and exuding a brownish secretion. These "hapters," which remind one very much of similar organs of the *Fucaceæ* and *Laminariaceæ* show a very simple structure, consisting merely of a parenchymatic tissue, in which the author observed the presence of siliceous concretions. The hapters have no root-cap, but are able to regenerate like true roots.

The shoots are developed in acropetal succession from the sides of the flattened roots, or in some cases a little towards the ventral face; they appear usually in pairs, more or less opposite, and are developed from the outermost layer of the bark, without being in contact with the central-cylinder. They resemble the roots fixed to the substratum by rhizoids and hapters, and are more or less dorsiventral.

The leaves show a great variation in size and shape; the first developed are scale-like, succeeded by the mostly alternating proper leaves, the blade of which may vary from simple and very small as in *Tristicha* and several species of *Podostemon*, until larger and deeply cleft as in most species of this family.

The paper is illustrated by 17 figures, mostly original and finely drawn by the author himself.—THEO. HOLM.

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[1] Botanische Notizen. Bot. Zeitung, 1883.

Forest trees of North America.[1]

This brochure of plates will come as a surprise to almost every botanist. Very few, even of Dr. Gray's friends, were aware of the existence of these plates or of the projected work which they were intended to illustrate. They were stored at his house and after his death were sent to the Smithsonian Institution whose property they were. The 300 copies are now "distributed to the principal botanists and museums of the world as mementos of the distinguished man who gave so much of his life and labors to this department of knowledge." The few plates now published (from Mr. Isaac Sprague's admirable drawing) make us wish that the expensiveness of the undertaking and Dr. Gray's preoccupation had not prevented the preparation of text and the completion of the work. We may well congratulate ourselves, however, that the Secretary of the Smithsonian Institution has authorized the distribution of them, even in their incompleteness.

Botanist's Directory.

The useful Correspondance Botanique of Morren having become antiquated Wilhelm Engelmann of Leipzig, the well-known publisher, has issued a list of living botanists, of botanical institutes, societies and periodicals[2].

The compilers are hidden behind the term "Fachmänner." Of course one looks first at the addresses of his own countrymen. For the United States we find many of them sadly awry, and it is a pity that the MS. or the proof was not submitted to some American "Fachmann." We could name a dozen who could have corrected three-fourths of the errors and have added many names worthy of insertion. However, the main value of the book to Americans lies not so much in the accuracy of the American addresses as in those of foreigners. We may well believe that for the continent of Europe at least the work much surpasses in fullness and accuracy the United States section. It is sure to prove of great use to all who have any European correspondence or who wish to be able to distribute papers or specimens wisely. The addresses are grouped by cities, and an index of persons and one of places at the end enables one to find any address of which he has even an inkling. The publisher will be grateful for notice of corrections. We hope that American botanists will see to it that their addresses are correctly given in future editions.

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[1] Botanisches Adressbuch. Verzeichnis der lebenden Botaniker, sowie der botanischen Anstalten, Gesellschaften und Zeitschriften, herausgeben von Fachmænnern. 8 vo. pp. 186. Leipzig: Wm. Engelmann, 1891.—M. 5.

[2] Gray, Asa.—Plates prepared between the years 1849 and 1859, to accompany a report on the forest trees of North America. 4°. pp. 4. plates 23, colored. Washington: Smithsonian Institution. 1891.